UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,318	01/04/2005	Koen Maertens	17932	2554

26637   7590   12/29/2006

CNH AMERICA LLC
INTELLECTUAL PROPERTY LAW DEPARTMENT
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EXAMINER
SHECHTMAN, SEAN P

ART UNIT	PAPER NUMBER
2125	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/520,318	MAERTENS ET AL.
	Examiner	Art Unit	
	Sean P. Shechtman	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *31 August 2006*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-21* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11,13-15,17 and 19-21* is/are rejected.

7) ☒ Claim(s) *12,16 and 18* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *04 January 2005* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☒ All   b) ☐ Some *   c) ☐ None of:

         1. ☒ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date *1/4/05*.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail. Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-21 are presented for examination. Claims 1-21 have been amended.

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers

have been placed of record in the file.

Drawings

3.   This application contains two sets of drawings both filed on January 4th 2005. One set

shows four figures and one set shows five figures. Since the substitute specification filed

January 4th 2005 references four figures, the set showing four figures will be used for purposes of

examination.

Specification

4.   The abstract of the disclosure is objected to because the abstract refers to purported

merits or speculative applications of the invention and compares the invention with the prior art.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5.   The disclosure is objected to because of the following informalities: Referring to page 11,

line 11, the variable E has not been defined. Referring to page 10, lines 27-28, the variables T

and h have not been defined. Referring to page 14, lines 16-24, the variable theta has not been

defined, and it will be assumed that theta is equal to the stochastic parameter (see the numerical

values for theta in Fig. 2; see also page 16, lines 1-11 and Fig. 3). Appropriate correction is

required.

Claim Objections

6.   Claims 12, 16, and 18 are objected to under 37 CFR 1.75(c) as being in improper form

because a multiple dependent claim *should refer to other claims in the alternative only.* See

MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

7.   Claim 10 is objected to because of the following informalities: Referring to claim 10,

line 8, "said parameter in order to" should be rephrased "said parameter, in order to".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter which the applicant regards as his invention.

8.   Claims 1-11, 13-15, 17, 19-21 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 1 is indefinite because g'(t-1) has not been defined by the claim.

Claim 2 is indefinite because the variables n sub stochastic parameter and n sub error

prediction have not been defined by the claim. For purposes of examination it will be assumed

that the variables n sub stochastic parameter and n sub error prediction are finite valued variables

greater than 1.

Claim 2 is indefinite because g'(t-n) has not been defined by the claim.

Claim 2 is indefinite because .epsilon.(t) has not been defined. Claim 2 further limits

g'(t) to include g'(t-n). However, claim 2 appears to broaden the scope of the error prediction

function since what appears to be the error prediction function in claim 2 is no longer a function

of g'(t), and therefore an assumption cannot be made that .epsilon.(t), alone, is the same as the

error prediction function defined in claim 1. For purposes of examination, it will be assumed

that .epsilon.(t) in claim 2 is also a function of g'(t), i.e., .epsilon.(t,g'(t)).

Claim 3 recites the limitation "the actual effectiveness value" in line 11. There is

insufficient antecedent basis for this limitation in the claim. For purposes of examination it will

be assumed that the actual effectiveness value is the actual effectiveness value of crop processing

in said harvesting machine.

Claim 4 recites the limitation "the influence...of past measurements" in lines 3-4. There

is insufficient antecedent basis for this limitation in the claim. For purposes of examination it

will be assumed that the influence of past measurements is an influence of past measurements.

Claim 5 recites the limitation "the relation between a value u(t) indicative of the feedrate

of crop into the harvesting machine and a value y(t) indicative of the effectiveness of an

operation processing said crop in said harvesting machine" in lines 3-6. There is insufficient

antecedent basis for this limitation in the claim. For purposes of examination it will be assumed

that the relation between a value u(t) indicative of the feedrate of crop into the harvesting

machine and a value y(t) indicative of the effectiveness of an operation processing said crop in

said harvesting machine is a relation between a value u(t) indicative of the feedrate of crop into

the harvesting machine and a value y(t) indicative of the effectiveness of an operation processing

said crop in said harvesting machine.

Claim 5 recites the limitation "the application of said model" in line 8. There is

insufficient antecedent basis for this limitation in the claim. For purposes of examination it will

be assumed that the application of said model is an application of said model.

Claim 5 recites the limitation "the feedrate values" in line 8. There is insufficient

antecedent basis for this limitation in the claim. For purposes of examination it will be assumed

that the feedrate values are the feedrate value.

The term "substantially" in claim 10 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The continuous adjustment has been rendered indefinite by the use of the term substantially. The term "substantially" is often used in conjuncture with another term to describe a particular characteristic of the claimed invention. It is a broad term. In re Nehrenberg, 280 F 2d 161, 126 USPQ 383 (CCPA 1960). The court held that the limitation "to substantially increase the efficiency of the compound as a copper extractant" was definite in view of the general guidelines contained in the specification and the rest of the claim. In re Mattison 509 F .2d 563, 184 USPQ 484 (CCPA 1975). The instant specification and the rest of the claim provides for what is accomplished as a result of the continuous adjustment (i.e., the load is optimized) and provides for the adjustment of performance variables in dependence on an instantaneuous optimized value of the stochastic parameter that is a function of time (see claim 10, lines 7-8 and page 13, equation 8), wherein the performance variables can be, for example, speed or actual cutting width (see page 10, lines 17-19). However, the examiner respectfully submits that the instant specification and the rest of the claim fail to provide for any general guidelines regarding how the performance variables are substantially continuously adjusted. For purposes of examination it will be assumed that substantially continuous adjustment is a continuous adjustment.

Claim 10 recites the limitation "the load of the harvesting machine" in line 8. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the load of the harvesting machine is a load of the harvesting machine.

Claim 14 recites the limitation "the travel speed" in line 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the travel speed is a travel speed.

Claim 14 recites the limitation "the actual cutting width" in line 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the actual cutting width is a actual cutting width.

Claim 15 recites the limitation "the machine load" in line 6. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the machine load is a machine load.

Claim 15 recites the limitation "the optimized parameter values" in line 12. There is insufficient antecedent basis for this limitation in the claim. For purposed of examination it will be assumed that the optimized parameter values are the optimized parameter value.

Claim 21 recites the limitation "the straw walkers" in line 4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the straw walkers are straw walkers.

Claim 21 recites the limitation "the rotary separator" in line 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination it will be assumed that the rotary separator is a rotary separator.

Claims 6-9, 11, 13, 20, depend from claims 1-5, 10, 14, 15, and therefore inherit the same deficiencies.

Due to the vagueness and a lack of clear definition of the terminology and phrases used in the specification and claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9.   Claims 1-9, 20, and 21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-9, 20, 21 are directed to an abstract idea rather than a practical application of the idea, since it does not produce a tangible result. Optimizing a parameter is a thought or computation within a computer and is not a tangible result. It's not until it is applied in a meaningful way that it becomes a real world result rather than an abstraction.

Claims 10, 11, 13-15, 17, 19, resolve the deficiency and are statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10.   Claims 1, 2, 10, 11, 14, 17, 19, 20, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,995,895 to Watt et al (hereinafter referred to as Watt).

Referring to claim 1, Watt teaches a method of substantially continuously optimizing a stochastic parameter g that characterizes the instantaneously prevailing readiness with which

crop is processed in a harvesting machine (Col. 17, line 66, - Col. 18, line 42, especially Col. 18,

lines 25-42, the examiner respectfully submits that the anticipated yield is the parameter because

the anticipated yield indicates the extent to which the harvesting machine is capable of

processing the crop, i.e., a higher anticipated yield indicates the harvesting machine is less

capable of processing the crop because it results in controls to accommodate the increased

anticipated yield by slowing the vehicle to shift power to the crop processors), including the step

of recursively calculating the optimized parameter value in accordance with the following

algorithm (Col. 17, line 66 – Col. 18, line 15):

g'(t)=.function.(.epsilon.(t,g'(t-1)))   - (A)

wherein:

g'(t) is the optimized stochastic parameter value at time t; and

.epsilon.(t,g'(t)) is an error prediction function.

Referring to claim 20, Watt teaches a method according to claim 1, wherein said

harvesting machine is a combine harvester and the crop is a grain-bearing plant (Col. 7,lines 58-

63).

Referring to claim 2, Watt teaches a method according to claim 1, wherein the algorithm

(A) has the form: g'(t)=.function.(g'(t-1), . . . , g'(t-n.sub.g),.epsilon.(t,g'(t)), . . . , .epsilon.(t-

n.sub..epsilon.,g'(t)),t), wherein the variables n sub g and n sub epsilon are finite valued

variables greater than 1 (Col. 17, line 66 – Col. 18,line 15).

Referring to claim 10, Watt teaches a method of operating a harvesting machine

comprising the steps of:

substantially continuously optimizing a stochastic parameter g that characterizes the instantaneously prevailing readiness with which the harvesting machine processes crop (Col. 17, line 66, - Col. 18, line 42, especially Col. 18, lines 25-42, the examiner respectfully submits that the anticipated yield is the parameter because the anticipated yield indicates the extent to which the harvesting machine is capable of processing the crop, i.e., a higher anticipated yield indicates the harvesting machine is less capable of processing the crop because it results in controls to accommodate the increased anticipated yield by slowing the vehicle to shift power to the crop processors); and

continuously adjusting a performance variable of the harvesting machine in dependence on the instantaneous, optimized value g' of said parameter, in order to optimize a load of the harvesting machine (Col. 18, lines 35-42, crop processor settings are adjusted to accommodate heavier yields and vehicle slowed to shift power to accommodate heavier yields) so as to keep a value y(t) indicative of the effectiveness of said harvesting machine below a predetermined value (Col. 3, lines 31-45, Watt teaches why the speed is controlled as a function of the power demand, to "insure the crop processors receive sufficient power from a relatively fixed power budget to efficiently process crop with acceptable loss rates"; See also Col. 25, lines 51-54, the vehicle speed setting depends on the sensed crop loss).

Referring to claim 11, Watt teaches a method according to claim 10, wherein:

processing the crop comprises separating useable crop parts from other plant matter (Col. 7, lines 63-65);

optimizing the load of the harvesting machine comprises optimizing the feedrate u(t) of

crop into the harvesting machine (Col. 18, lines 35-42, this is done by adapting the vehicle

speed; Col. 25, lines 51-54); and

the effectiveness value comprises losses y(t) of useable crop parts (Col. 25, lines 51-54).

Referring to claim 14, Watt teaches a method according to claim 10, wherein adjusting a

performance variable comprises adjusting a travel speed of said harvesting machine or a actual

cutting width of a header of said harvesting machine (Col. 18, lines 35-42; Col. 25, lines 42-45).

Referring to claim 17, Watt teaches a method of operating a harvesting machine

comprising the steps of:

substantially continuously optimizing a stochastic parameter g that characterizes the

instantaneously prevailing readiness with which the harvesting machine separates useable crop

parts from other plant matter (Col. 17, line 66, - Col. 18, line 42; Col. 7,lines 63-65; Col. 25, line

66 – Col. 26,line 4); and

sending a display signal, that is indicative of the instantaneous parameter value g', to a

display device (Col. 9, lines 47-55; Col. 11, lines 15-27).

19. A method according to claim 17, wherein the display signal indicates an abnormal

parameter value g' (Col. 9, lines 47-55; Col. 11, lines 15-27).

Allowable Subject Matter

11.   Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35

U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of

the base claim and any intervening claims.

Neither Watt nor the prior art of record, taken either alone or in obvious combination

disclose a method of operating a harvesting machine having all the claimed features of

applicant's instant invention, specifically including: the step of adjusting a performance variable

of the harvesting machine in dependence on the output of an inverted form of the yield loss

estimation function of claim 13.

12.   Claim 15 would be allowable if rewritten or amended to overcome the rejection(s) under

35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Referring to claim 15, while Watt teaches a method of mapping one or more field lots for

variations in a stochastic parameter g that characterizes the instantaneously prevailing readiness

with which crop is processed in a harvesting machine (Col. 17, line 66, - Col. 18, line 42), the

method comprising the steps of: operating a harvesting machine to harvest crop in a field lot (See

Fig. 4, element 160); measuring the machine effectiveness (Col. 25, lines 51-54) and determining

the position of the machine in the field lot (Col. 11, lines 22-23); and mapping the optimized

parameter value g' so as to produce a parameter map of the field lot (Fig. 4; Col. 18,lines 10-15;

Col. 11,lines 15-27).

Neither Watt nor the prior art of record, taken either alone or in obvious combination

disclose a method of mapping one or more field lots for variations in a stochastic parameter g

that characterizes the instantaneously prevailing readiness with which crop is processed in a

harvesting machine having all the claimed features of applicant's instant invention, specifically

including: simultaneously measuring a machine load and the machine effectiveness and

determining the position of the machine in the field lot; storing data indicative of the position of

the harvesting machine at time t; using the measured machine load data u(t), and machine

effectiveness data y(t) in an optimization of said parameter g; and mapping the optimized

parameter value g' obtained from the step of using the measured machine load data u(t) and

machine effectiveness data y(t) in an optimization of said parameter g; so as to produce a

parameter map of the field lot.

Conclusion

13.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754.

The examiner can normally be reached on 9:30am-6:00pm, M-F.
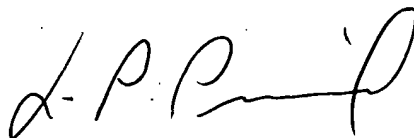
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS

Sean P. Shechtman

December 20, 2006   LEO PICARD
                                                    SUPERVISORY PATENT EXAMINER
                                                    TECHNOLOGY CENTER 2100